BRUHAT BANGALURU MAHANAGARA PALIKE

Name of Work: Improvements Roads and Drains at Thirumenhalli Colony in Ward No. 05

Job code:005-20-000118

									Est Cost in Lakhs	**100.00**
Sl. No.	**Description of work**	**Unit**	**No.**	**Length**	**Breadth**	**Depth**	**Quantity**		**Rate in Rs.**	**Amount in Rs.**
				m	**m**	**m**				
1	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 & M-20. MORTH Specification No. 202. (P.No. 139, I.No. 18.20 of CSR 2018-19)									
	CC Road Dismantling	Cum								
	WA1311 Cross Road		1	120.00	4.50	0.20	108.00			
	WA1315 Cross Road		1	140.00	5.50	0.20	154.00			
	W1289 Cross Road		1	110.00	5.00	0.20	110.00			
	Cross Road		1	55.00	3.30	0.20	36.30			
							408.30		501.38	**204713.45**
	Basic rate	**390.00**								
	Loading and unloading with 10km lead= 57+2.0x1.3x10 = 83.00	**83.00**								
	Area Weightage 6%	**28.38**								
	Total	**501.38**								
2	KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2018-19)									
	Road Portion	Cum								
	New CC Road									
	WA1311 Cross Road		1	120.00	4.50	0.30	162.00			
	WA1315 Cross Road		1	140.00	5.50	0.30	231.00			
	W1289 Cross Road		1	110.00	5.00	0.30	165.00			
	Cross Road		1	55.00	3.30	0.30	54.45			
	New RCC Drain									
	WA1311 Cross Road		1	120.00	1.10	1.20	158.40			
	WA1315 Cross Road		1	140.00	1.10	1.20	184.80			
	W1289 Cross Road		1	110.00	1.10	1.20	145.20			
	Cross Road		2	55.00	1.10	1.20	145.20			
	New RCC Culverts		5	12.00	1.40	1.60	134.40			
			2	9.00	1.40	1.60	40.32			
	For UGD Line Restoration									
	WA1311 Cross Road		1	120.00	1.00	0.65	78.00			
	W1289 Cross Road		1	110.00	1.00	0.65	71.50			
	Overburden Earth		1	50.00	0.60	0.30	9.00			
							1579.27		128.30	**202620.34**
	Basic rate	**41.00**								
	Loading and unloading with 10km lead= 57+2.0x1.28x9 = 80.04	**80.04**								
	Area Weightage 6%	**7.26**								
	Total	**128.30**								

3	KSRB 4-1.2 : Providing and laying in position plain cement concrete of Mix 1:3:6 with OPC @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregates @ 0.465cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2 (P.No.13, I.No.4.2 of PW, P&IWTD SR 2018-19)								
	PCC-Bed	Sqm							
	New RCC Drain								
	WA1311 Cross Road		1	120.00	1.10	0.15	19.80		
	WA1315 Cross Road		1	140.00	1.10	0.15	23.10		
	W1289 Cross Road		1	110.00	1.10	0.15	18.15		
	Cross Road		2	55.00	1.10	0.15	18.15		
	New RCC Culverts		5	12.00	1.40	0.20	16.80		
			2	9.00	1.40	0.20	5.04		
							101.04	5505.64	**556289.87**
	Basic rate	**5194.00**							
	Area Weightage 6%	**311.64**							
	Total	**5505.64**							
4	Providing laying plain/ reinforced cement concrete for side drains using M20 nominal mix concrete with OPC at 300 kgs. With 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43cum machine mixed, well compacted for walls and bottom including centring, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specification 15cm wall and bottom thickness (P.No.275, I.No.37.59.2 of PW, P&IWTD SR 2018-19)								
	New RCC Drain	Cum							
	Raft Concrete								
	WA1311 Cross Road		1	120.00	0.90	0.15	16.20		
	WA1315 Cross Road		1	140.00	0.90	0.15	18.90		
	W1289 Cross Road		1	110.00	0.90	0.15	14.85		
	Cross Road		2	55.00	0.90	0.15	14.85		
	Wall Concrete								
	WA1311 Cross Road		2	120.00	0.15	0.90	32.40		
	WA1315 Cross Road		2	140.00	0.15	0.90	37.80		
	W1289 Cross Road		2	110.00	0.15	0.90	29.70		
	Cross Road		4	55.00	0.15	0.90	29.70		
							194.40	7070.20	**1374446.88**
	Basic rate	**6670.00**							
	Area Weightage 6%	**400.20**							
	Total	**7070.20**							
5	34.17 Providing and laying in position plain/Reinforced cement cement concrete M20 for sub structure/Superstructure works, with cement @ 320 kgs, 20 mm & down size graded granite metal coarse aggregate @ 0.69 cum and fine aggregates @ 0.46 cum machine mixed with super plasticisers @ 3 lts confirming to IS 9103-2008,concrete laid in layers, well compacted and providing weep holes wherever necessary. with necessary scaffolding, form work etc., including cost of labour, HOM curing etc., complete. (P.No.257, I.No.34.17 of PW, P&IWTD SR 2018-19)								
	New RCC Culverts	Cum							
	Raft Concrete								
			5	12.00	1.20	0.20	14.40		
			2	9.00	1.20	0.20	4.32		
	Wall Concrete								
			10	12.00	0.20	1.20	28.80		
			4	9.00	0.20	1.20	8.64		
							56.16	5277.74	**296397.88**
	Basic rate	**4979.00**							
	Area Weightage 6%	**298.74**							
	Total	**5277.74**							

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6	KSRB 4-6.1: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specifcation No. KBS 4.6.1 (P.No.16, I.No.4.28 of PW,P&IWTD SR 2018-19)									
	New RCC Culverts	Sqm								
	Raft Concrete									
			10	12.00		0.20	24.00			
			4	9.00		0.20	7.20			
							31.20	273.48	**8532.58**	
	Basic rate	**258.00**								
	Area Weightage 6%	**15.48**								
	Total	**273.48**								
7	KSRB 4-6.4: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surfaces such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifications. Specification No.KBS 4.6.2 (P.No.16, I.No.4.31 of PW,P&IWTD SR 2018-19)									
	New RCC Culverts	Sqm								
	Wall Concrete									
			20	12.00		1.20	288.00			
			8	9.00		1.20	86.40			
							374.40	379.48	**142077.31**	
	Basic rate	358.00								
	Area Weightage 6%	**21.48**								
	Total	**379.48**								
8	KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200.TMT Bars Fe 500 (P.No.18, I.No.4.46.2 of PW, P&IWTD SR 2018-19)									
	TMT Steel	Tonne								
	Consider 65Kgs/cum for Drain			194.40	0.065	--	12.64			
	Consider 85Kgs/cum for Culverts			56.16	0.085	--	4.78			
							17.42	75223.96	**1310401.38**	
	Basic rate	**70966.00**								
	Area Weightage 6%	**4257.96**								
	Total	**75223.96**								
9	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)									
	100mm Precast Slab	Sqm								
	WA1311 Cross Road		1	120.00	0.90		108.00			
	WA1315 Cross Road		1	140.00	0.90		126.00			
	W1289 Cross Road		1	110.00	0.90		99.00			
	Cross Road		2	55.00	0.90		99.00			
							432.00	**2337.00**	**1009584.00**	
	Data Rate	**2337.00**								
10	Providing and fixing **RCC Precast cover slab of 250mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)									
	250mm PRE-CAST Slab	Sqm								
	New RCC Culverts		5	12.00	1.20		**72.00**			
			2	9.00	1.20		**21.60**			

								93.60	5418.00	507124.80
	Data Rate		5418.00							
11	KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300-2 complete as per specifications, including cost of gravel / murrum, watering charges & compaction by vibratory roller to 95% of modified proctors density. MORTH Specification No. 305. (P.No.147, I.No.19.60 of PW,P&IWTD SR 2018-19)									
	For UGD Line Restoration		Cum							
	WA1311 Cross Road			1	120.00	1.00	0.30	36.00		
	W1289 Cross Road			1	110.00	1.00	0.30	33.00		
								69.00	344.50	23770.50
	Basic rate		325.00							
	Area Weightage 6%		19.50							
	Final Rate		344.50							
12	KSRB 2.6 : Providing and filling sand in foundation to required depth for sub soil treatment including watering ramming with all lead and lift complete as per specifications. specification. No. KBS 2.10.2. (P.No.7, I.No.2.13 of PW,P&IWTD SR 2018-19)									
	For UGD Line Restoration		Cum							
	WA1311 Cross Road			1	120.00	1.00	0.30	36.00		
	W1289 Cross Road			1	110.00	1.00	0.30	33.00		
								69.00	2183.60	150668.40
	Basic rate		2060.00							
	Area Weightage 6%		123.60							
	Final Rate		2183.60							
13	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/trap/basalt material, mixing by mix in place method by rotavator at OMC,spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications. Clause 401 of MORTH V Revision.. (P.No.153, I.No.20.6 of PW,P&IWTD SR 2018-19)									
	For UGD Line Restoration		Cum							
	WA1311 Cross Road			1	120.00	1.00	0.15	18.00		
	W1289 Cross Road			1	110.00	1.00	0.15	16.50		
								34.50	1855.00	63997.50
	Basic rate		1750.00							
	Area Weightage 6%		105.00							
	Final Rate		1855.00							
14	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.155, I.No.20.18 of PW,P&IWTD SR 2018-19)									
	Road Portion		Cum							
	For UGD Line Restoration									
	WA1311 Cross Road			1	120.00	1.00	0.20	24.00		
	W1289 Cross Road			1	110.00	1.00	0.20	22.00		

							46.00	2001.28	92058.88
	Basic rate	1888.00							
	Area Weightage 6%	113.28							
	Total	2001.28							
15	KSRRB M600-1. Construction of dry lean cement concrete mix CC1:5:10 with OPC cement @160Kgs, with 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @ 0.58cum Sub- base over a prepared sub-grade with (coarse and fine aggregate conforming to IS: 383) aggregate cement ratio not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content not to be less than 160 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. . MORTH V Revision Specification No. 601, IS 456 Table-5. with OPC at 150 kg/cum and coarse aggregate 0.86cum, fine aggregate 0.58cum using Concrete Batch mix Plant at 75 cum/hr capacity with Slip.((P.No.174, I.No.22.1.1 of PW,P&IWTD SR 2018-19)									
	For UGD Line Restoration	Cum							
	WA1311 Cross Road		1	120.00	4.50	0.15	81.00		
	WA1315 Cross Road		1	140.00	5.50	0.15	115.50		
	W1289 Cross Road		1	110.00	5.00	0.15	82.50		
	Cross Road		1	55.00	3.30	0.15	27.23		
							306.23	3800.10	1163685.62
	Basic rate	3585.00							
	Area Weightage 6%	215.10							
	Total	3800.10							
16	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades, textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications -with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum.((P.No.176, I.No.22.6.1 of PW,P&IWTD SR 2018-19)									
	New CC Road	Cum							
	WA1311 Cross Road		1	120.00	4.50	0.15	81.00		
	WA1315 Cross Road		1	140.00	5.50	0.15	115.50		
	W1289 Cross Road		1	110.00	5.00	0.15	82.50		
	Cross Road		1	55.00	3.30	0.15	27.23		
							306.23	5210.96	1595726.23
	Basic rate	4916.00							
	Area Weightage 6%	294.96							
	Total	5210.96							
17	Vaccum de-watering with vaccum pump and suction mat and compaction with skin floater clubbed with floating disc including cost of generator, HOM of machinery, Screed Vibratory, Power Floater, blade and disc etc., with all lead and lift. (P.No 176, I.No.22.7 of PW,P&IWTD S.R 2018-19)								
	New CC Road	Sqm							
	WA1311 Cross Road		1	120.00	4.50		540.00		
	WA1315 Cross Road		1	140.00	5.50		770.00		
	W1289 Cross Road		1	110.00	5.00		550.00		
	Cross Road		1	55.00	3.30		181.50		
							2041.50	72.08	147151.32

	Basic rate	68.00							
	Area Weightage 6%	4.08							
	Total	72.08							
28								Total Construction Cost-A	8849243.68
29								12% GST on KPWD 2018-19 items-B=Ax12%	1061909.24
30								Total Construction Cost Including GST Charges-C=A+B	9911152.93
31								Add 1% for PMC including GST Charges-D=Ax1%	88492.00
32								Sub Total-E=C+D	9999644.93
33								Miscellaneous and rounding off-F	355.07
34								Total G=E+F	10000000.00

Certificate.

1. The rates adopted based on the PWD SR, Bangalore circle for year 2018-19.
2. The provisions made in the estimate are necessary and essential.
3. The workspot was inspected and work is found to be necessary.
4. The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Assistant Engineer

Assistant Executive Engineer

Executive Engineer 26/5/2020

Technical Sanction
Accorded for RS100.00 lakhs only
Head of A/C P1878
CER NO :...22..... Dt.01.06.2020

TA

CE (YNK)